Reducing the Harm Associated with Injection Drug Use in Canada

Prepared by:

F/P/T Advisory Committee on Population Health
F/P/T Committee on Alcohol and Other Drug Issues
F/P/T Advisory Committee on AIDS, and
F/P/T Heads of Corrections Working Group on HIV/AIDS

For the meeting of Ministers of Health, St. John's, Newfoundland
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Preface

The mandate of the Advisory Committee on Population Health (ACPH) is to develop and provide policy advice to the Conference of Deputy Ministers of Health on current and future population health (including public health[a]) issues of national significance that require or may benefit from provincial, territorial and federal consensus and collaboration. The ACPH is comprised of representatives of Health Canada, provincial and territorial governments as well as non-governmental organizations.

This paper is a joint effort of ACPH and three federal/provincial/territorial (F/P/T) committees representing drugs, AIDS, corrections, and justice:

- F/P/T Committee on Alcohol and Other Drug Issues;
- F/P/T Advisory Committee on AIDS; and
- F/P/T Heads of Corrections Working Group on HIV/AIDS

Contributions to the development of this paper were also provided by:

- Health Canada
- Royal Canadian Mounted Police
- Correctional Service Canada
- Justice Canada
- A broad range of provincial and territorial representatives from sectors including health, police, corrections, justice and social services.

a For the remainder of this document, where there is a reference to population health or to the work of the Advisory Committee on Population Health, the reader will know that public health issues are inherent within the framework of population health.

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Executive Summary

This report is the federal/provincial/territorial response to a significant number of recent, well-researched papers[b] and consultations recommending action to reduce the harm associated with injection drug use in Canada. It is intended to provide a framework for multi-level strategies and action plans to reduce the harm associated with injection drug use in Canada and to promote a new level of coordinated action and collaboration among various sectors and jurisdictions in adopting policies and practices to address injection drug use and the associated harms.

In February 2001, the Federal/Provincial/Territorial Deputy Ministers of Health approved the release of a draft of this report, as a working paper, to allow for broad consultation within and outside of government. The intensive consultation included representatives of health, social services, addictions, HIV/AIDS, hepatitis C, police, corrections, justice, Aboriginal peoples, community agencies, and people who inject drugs. The purpose of the consultation was to gain further support and to obtain feedback in order to refine the report. This revised document reflects the results of the consultation. As a result, the report represents an extraordinary level of consensus among a broad range of governmental and non-governmental stakeholders and has garnered the support of senior officials. As such, there is now an opportunity to use the overall framework, as appropriate, to develop individually-tailored, multijurisdictional action plans.

Injection drug use is a serious health and social issue for many countries, including Canada. The economic costs associated with injection drug use are substantial and rising due to the escalation of HIV and hepatitis C infections. In 1992, before the dramatic increase in HIV and hepatitis C infections associated with injection drug use, the costs related to illicit drug use were conservatively estimated at $1.4 billion per year. The majority of these costs were attributable to injection drug use and included lost productivity due to morbidity and premature death, health care costs and law enforcement. A study estimated that the direct and indirect costs of HIV/AIDS attributed to injection drug use would be $8.7 billion over a six-year period if trends continued. The medical costs to treat people with hepatitis C are expected to exceed those for HIV/AIDS.

In combining their efforts at this time, the federal/provincial/territorial committees involved in this process agree that the problems associated with injection drug use have reached critical proportions. In addition, the committees agree that Canada will not be able to turn the situation around without a bold new level of coordinated action and enhanced multisectoral and interjurisdictional collaboration on several fronts as described in this paper. Immediate action is called for in the areas of prevention; outreach; treatment and rehabilitation; research,

b The following reports have identified the need for action by governments and the non-government sector to reduce the harm associated with injection drug use: Injection Drug Use and HIV/AIDS: Legal and Ethical Issues; HIV/AIDS in Prisons: Final Report; HIV, AIDS and Injection Drug Use - A National Action Plan; HIV, Hepatitis, and Injection Drug Use in British Columbia - Pay Now or Pay Later?; Second National Workshop on HIV, Alcohol, and Other Drug Use; The Red Road: Pathways to Wholeness; Report of the Task Force into Illicit Narcotic Overdose Deaths in British Columbia; Drug use and the HIV epidemic, a frame of reference for prevention (MSSS Quebec).

surveillance and knowledge dissemination; and national leadership and coordination. A detailed discussion of the regulatory framework regarding access to and use of psychotropic substances is not included in the scope of this paper. All of the recommendations cited are possible within the existing legal framework.

While new dollars may be required in the medium term, the focus in the short term should be on intensive, high level, cross-governmental and multi-stakeholder consultation to further communicate and build consensus around the priorities presented in the report. This, in turn, will allow finetuning of more specific plans to be accommodated in future budget plans.

Injection drug use is an issue for all Canadians, but particularly among the vulnerable and marginalized. The relative risk of harms from drug use is highest for Canadians with a history of victimization, poverty, family dysfunction, including alcohol and other drug problems among family members, low educational attainment and unemployment, and those who lack accessibility to appropriate and effective services. However, the population of Canadians who inject drugs is extremely diverse. It is crucial that programs, policies, and strategies are designed and adapted to take into account factors such as age, gender, culture, geographic location and polydrug use.

It is estimated that up to125,000 Canadians inject drugs, most commonly cocaine, heroin and steroids. Injection drug use is associated with death from drug overdose, complications arising from HIV, hepatitis C, and other communicable pathogens, and suicide. A variety of other health problems are also associated with injection drug use and include abscesses, infections, poor nutrition, endocarditis and adverse drug interactions due to polydrug use.

The linkage between injection drug use and blood borne diseases is a major concern and reason for urgent action. Over one third of new HIV cases in 1999 were attributable to injection drug use. Additional HIV cases occur in the sexual partners and newborn children of individuals using drugs by injection. Also, it is estimated that between 210,000 and 275,000 Canadians are infected with the hepatitis C virus. Estimates also indicate that of the thousands of new cases of hepatitis C every year, 63% are related to injection drug use.

Injection drug use does not arise in isolation, but is part of the broader context of drug misuse[c]. Comprehensive, coordinated, and multi-sectoral action should be taken both in the short term and in the longer term to reduce drug misuse as well as to reduce drug use by injection and the immediate harms associated with injection drug use, such as HIV/AIDS, hepatitis C, and overdose. In this way, federal/provincial/territorial officials agree that actions which are successful at preventing or reducing drug use in the first place can be viewed as contributing in the long term to a reduction in the overall harm associated with injection drug use. The reality of the situation in Canada requires a national response that also addresses the immediate risk factors for people who are injecting drugs as part of a continuum of addiction

c Drug misuse is defined as use that is associated with physical, psychological, economic or social problems or which constitutes a risk to the health, security or well-being of individuals, families and communities. Whether or not any particular use is defined as misuse depends on the user, the substance, and the context in which it is used. (Ministère de la Santé et des Services sociaux du Québec. *Pour une approche pragmatique de prévention en toxicomanie.* Orientations et stratégie. Document de consultation, 1998.)

interventions. Given the urgency of the situation in Canada, this report deliberately focuses on actions which should be undertaken in the short term. These actions need to reflect both the broader context of a population health perspective aimed at addressing the determinants of health associated with drug use as well as the immediate risks associated with the use of drugs by injection. Canada's Drug Strategy, the Canadian Strategy on HIV/AIDS, and the Hepatitis C Prevention, Support, and Research Program, are, therefore, essential foundations to addressing injection drug use within the overall context of drug misuse and addiction.

The foundation provided by a population health perspective, Canada's Drug Strategy, the Canadian Strategy on HIV/AIDS and coordinated long-term action supports a comprehensive approach to reducing the harm associated with injection drug use with the goals of:

- increasing efforts to address the determinants of health and the underlying factors associated with drug misuse.
- reducing injection drug-related mortality and morbidity.
- reducing the incidence and prevalence of injection drug use.
- reducing the health, social and economic costs and consequences of drug use.

The goals will be supported by adopting the following principles:

- Injection drug use should be regarded first and foremost as a health and social issue.
- People who inject drugs should be treated with dignity and have their rights respected.
- Services should be accessible and appropriate and should involve people who inject drugs in all aspects of planning and decision making.
- Programs and policies should take into account diversity among the injection drug using population such as gender, culture, age, geographic location, and polydrug use.
- The community and stakeholders should be involved in the responses.

Given the serious nature of the situation in Canada, there are a number of priority actions within this comprehensive framework that should be undertaken in the short term to reduce the harm associated with injection drug use:

Prevention

- Develop and enhance initiatives that address the underlying factors and conditions that put people at risk of misusing drugs, particularly by injection.
- Develop and enhance initiatives that address the underlying factors and conditions that put people at risk of engaging in unsafe injection practices.
- Develop and enhance initiatives that focus on high risk youth and the prevention of injection drug use.

Outreach

- Work with law enforcement, justice, all levels of government, community groups and others to enhance the implementation, accessibility and effectiveness of needle exchange programs and reduce the barriers in all settings in Canada, including the consideration of pilot projects in correctional facilities.
- Support outreach and networking initiatives at all levels to foster and increase harm reduction initiatives, increase access to effective health, social and treatment and rehabilitation services, and enhance social integration and reintegration (e.g. prisoners returning to their communities upon release from a correctional facility).
- Foster the involvement of people who use drugs by injection and drug user networks in reducing the harm associated with injection drug use.

Treatment and Rehabilitation

- Increase the availability of and address barriers to effective substance misuse treatment and rehabilitation programs, including methadone maintenance treatment, in all settings, including correctional facilities.
- Support, in principle, clinical trials to assess the treatment effectiveness of the prescription of heroin, LAAM, buprenorphine, and other drugs in the treatment of people who inject drugs.[d]

Research, Surveillance, and Knowledge Dissemination

- Monitor innovative approaches used in other countries to address injection drug use and assess their applicability to the Canadian context.
- Develop a framework for reporting regularly using agreed-upon indicators on injection drug use and its consequences, develop the tools necessary to collect and disseminate the relevant data and information, and monitor progress made to address this critical issue.
- Establish a task group consisting of (at a minimum) law enforcement, justice, health and social services, addiction and community perspectives to conduct a feasibility study of establishing a scientific, medical research project regarding a supervised injection site[e] in Canada.
- Improve surveillance of the injection drug use situation and its consequences in Canada through data collection, targeted studies, and research to assess causes, co-factors, and effectiveness of interventions.

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d Proposals for clinical trials would have to be reviewed and approved by peers and regulators before they could be undertaken.

e In some countries, these sites are referred to as supervised consumption sites, since the drugs may be consumed in ways other than by injection.

- Enhance knowledge dissemination and education regarding injection drug use, its determinants and its health and social effects for health and social service professionals, enforcement and justice officials, persons who inject drugs, inmates in correctional facilities and the community at large.
- Conduct research on Canadians' attitudes regarding harm reduction principles and specific harm reduction strategies.

National Leadership and Coordination

- Provide leadership and coordination to establish an intersectoral, multi-level dialogue regarding injection drug use.
- Provide leadership and collaborate with colleagues from other ministries/departments/jurisdictions to promote the adoption of policies and practices that reduce the harm associated with injection drug use.
- Foster intersectoral action through mechanisms such as the Health and Enforcement in Partnership (HEP) initiative to achieve the objectives of this framework for action.

The misuse of injection drugs is a health and social issue that has and will continue to have significant consequences for individuals, families and communities in Canada. Failure to act now will result in escalating health, social and economic impacts. It is time for all jurisdictions and stakeholders to work together to renew their commitment to comprehensive action to reduce the harms associated with injection drug use.

In taking the next steps to address injection drug use, governments and other stakeholders should:

- Recognize the importance of injection drug use as an urgent health and social issue requiring both short and long-term action;
- Adopt the goals and principles as outlined in this report;
- Endorse the continued collaborative work of federal/provincial/territorial colleagues and other stakeholders in reducing the harms associated with injection drug use;
- Support the priority actions identified to reduce the harms associated with injection drug use and demonstrate leadership within respective jurisdictions; and
- Use the framework, as appropriate, to develop comprehensive, strategic action plans to reduce the harms associated with injection drug use in Canada.

1. Introduction

The injection use of drugs represents a significant and increasingly important public health issue in Canada. The problems associated with the use of drugs by injection are reaching crisis proportions in many communities in Canada and account for the major share of deaths and hospitalizations attributed to drug misuse.[f] This is cause for alarm when considered in light of the resurgent use of drugs by youth,[1,2,3] rising rates of injection drug use, the emergence of injection drug use as a major risk factor for infection with HIV, hepatitis viruses and other blood borne pathogens, and the overwhelming impact of addiction and injection drug use on socially and economically disadvantaged groups including Aboriginal Canadians, homeless people, prisoners and street youth.[4]

A number of reports[g] have been developed, describing and analyzing injection drug use and associated harms. All of these reports have identified the need for urgent action by governments and the non-government sector to reduce the harm associated with injection drug use. This paper is the federal/provincial/territorial response to these reports and to the situation in Canada. It is intended to provide a framework for multi-level strategies and action plans to reduce the harm associated with injection drug use in Canada and to promote a new level of coordinated action and collaboration among various sectors and jurisdictions in adopting policies and practices to address injection drug use and the associated harms. The framework builds on past initiatives and consultations and is complementary to the goals, objectives, principles, and priorities of *Canada's Drug Strategy*, the *Canadian Strategy on HIV/AIDS* and the *Hepatitis C Prevention, Support and Research Program*.

In February 2001, the Federal/Provincial/Territorial Deputy Ministers of Health approved the release of a draft of this report, as a working paper, to allow for broad consultation within and outside of government. The intensive consultation included representatives of health, social services, addictions, HIV/AIDS, hepatitis C, police, corrections, justice, Aboriginal peoples, community agencies, and people who inject drugs. The purpose of the consultation was to gain further support and to obtain feedback in order to refine the paper. This revised document reflects the results of the consultation.

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f Drug misuse is defined as use that is associated with physical, psychological, economic or social problems or which constitutes a risk to the health, security or well-being of individuals, families and communities. Whether or not any particular use is defined as misuse depends on the user, the substance, and the context in which it is used. (Ministère de la Santé et des Services sociaux du Québec. *Pour une approche pragmatique de prévention en toxicomanie.* Orientations et stratégie. Document de consultation, 1998.)

g Injection Drug Use and HIV/AIDS: Legal and Ethical Issues; HIV/AIDS in Prisons: Final Report; HIV, AIDS and Injection Drug Use - A National Action Plan; HIV, Hepatitis, and Injection Drug Use in British Columbia - Pay Now or Pay Later?; Second National Workshop on HIV, Alcohol, and Other Drug Use; The Red Road: Pathways to Wholeness – Report of the Task Force into Illicit Narcotic Overdose Deaths in British Columbia; Drug use and the HIV epidemic, a frame of reference for prevention (MSSS Québec).

Although intervention strategies and activities should relate to local needs, populations and jurisdiction, injection drug use is a countrywide problem that requires a comprehensive, collaborative and consistent response. Federal/provincial/territorial governments should provide leadership and coordination in addressing injection drug use and its associated harms and in fostering and stimulating participation from all sectors.

This paper does not include an analysis of the regulatory framework regarding access to and use of psychotropic substances in Canada. Each of the aforementioned reports have identified some aspects of Canada's drug laws as contributing to the harms associated with injection drug use and have identified the need for changes to drug policy in Canada.

There are a number of initiatives, however, which should be undertaken immediately. Given the urgency of the situation in Canada, this paper deliberately focuses on these immediate initiatives, while recognizing the importance of undertaking action in the longer term and a close examination of Canada's drug law, regulations and policies related to injection drug use and to drug misuse in general.

2. The Health and Social Issues

The public health and social impacts of injection drug use in Canada are extensive, complex and devastating. The enormous costs and other health, social, and economic consequences are growing daily. Although media reports have tended to focus on the situation in cities such as Vancouver, Toronto, and Montreal, injection drug use and its related harms can be seen and felt across the country, from coast to coast in both urban and rural settings. It affects the family and friends of those who inject drugs, and ultimately all Canadians.

Poverty, homelessness, lack of education, family dysfunction and parental substance misuse, mental health problems, and a history of child abuse are all social determinants that place people at higher risk of misusing drugs or of injecting drugs.

Individuals who develop alcohol and other drug addiction are still stigmatized in Canadian society. Canadians who inject drugs are even more stigmatized, as they are, by and large, rejected by society because of the illegal nature of their behaviour, their sometimes disorganized lives, and their vulnerability to diseases. They are often labeled as difficult to manage, disruptive and manipulative. A significant portion of society views them as lesser persons – criminals and derelicts. These attitudes and misconceptions have resulted in a variety of harms, including public apathy, undiagnosed mental illness and inaccessible treatment and rehabilitation programs.

It is estimated that up to 125,000 people in this country inject drugs. This includes an estimated 25,000 Canadians who inject steroids. In Canada, among the drugs injected, cocaine, heroin and steroids are the most common.[5] However, some parts of the country are experiencing unique problems with the injection of other drugs such as Talwin and Ritalin.

Cocaine use by injection is of particular concern as people who inject cocaine typically do so as often as 20 times a day, increasing the problems associated with obtaining clean needles and sharing contaminated needles.[6] Recent estimates of mortality indicate that the major causes of death attributable to illicit drug use are drug overdose, suicide and complications arising from HIV infection,[7,8] all of which are highly associated with injection drug use. Other health problems associated with or complicated by injection drug use include abscesses, infections, poor nutrition, endocarditis and adverse drug interactions.

The linkage between injection drug use and blood borne infections is a major concern. Use of injection drugs represents a major risk factor for becoming infected with HIV, hepatitis viruses and other communicable pathogens. Persons who use drugs by injection can transmit HIV to their sexual partners via sexual contact, to their children, via perinatal transmission, and to other injection drug users by sharing needles, syringes or other drug paraphernalia. As much as 40% of drug users are in a sexual relationship with a non-user.[9] Many users or their sexual partners are women of childbearing age, and are therefore at risk of transmitting HIV to the fetus during pregnancy or to their child during delivery or through breastfeeding.

While injection drug use accounts for a substantial number of deaths and hospitalizations due to complications arising from HIV infections, it is alarming to note that injection drug use is a significant risk factor in new cases of HIV infection. The proportion of reported adult HIV positive cases directly attributed to injection drug use has increased from 8.9% prior to 1995 to 28.3% in 1999, with a high of 33.8% in 1997.[10] Over one third of new HIV cases in 1999 were attributable to injection drug use.[11]

There are even more dramatic trends regarding the role of injection drug use in the incidence of hepatitis B and C. It is estimated that between 210,000 – 275,000 Canadians have hepatitis C and that 70% of these individuals are current or former users of injection drugs.[12] Estimates also indicate that there may be 4,500 new hepatitis C infections occurring annually in Canada, of which at least 63% is related to injection drug use.[13] It has been estimated that approximately one-third of new hepatitis B infections in Canada are associated with injection drug use.

Hepatitis C is transmitted more easily through blood than is HIV and is acquired earlier after the onset of sharing injection materials. Compared to HIV, hepatitis C is ten to fifteen times more infectious through contact with blood.[14] The situation is further exacerbated by high prevalence rates of hepatitis C infection among populations that inject drugs, such that even occasional sharing of needles and other drug paraphernalia carries an extreme risk of infection. Hepatitis B and C are also of concern because of the length of time the virus can remain viable in discarded injection equipment. Accidental needle sticks are a known occupational hazard for health professionals, law enforcement officers, and correctional services personnel. Although there have not been any recorded incidents of infection of community members through accidental encounters with used needles, there is potential risk to others such as sanitation workers and children.

Injection drug use has an impact on all of society and is a key issue among the most vulnerable and marginalized individuals in society, such as those with a history of child abuse, those with mental illnesses, the homeless, street youth, sexually exploited children and inmates of

correctional facilities. However, the population of Canadians who inject drugs is extremely diverse, due in part, to factors such as age, gender, culture, geographic location and polydrug use.

Women who inject drugs face unique challenges because they frequently have links to the sex trade and histories of child sexual abuse. They are also often hesitant to enter drug treatment programs, as they are afraid that their children will be taken away from them and often experience difficulties finding safe and suitable child care while in treatment.[15,16] People who inject drugs and engage in unsafe sexual practices represent a link by which HIV can spread from people who inject drugs to those who do not.

The use of drugs is high among street youth. Estimates of the number of the street youth population have ranged as high as 150,000.[17] It is generally believed that a major pathway to this marginal lifestyle is the experience of physical, emotional and/or sexual abuse at home.[18] Studies conducted between 1988 and 1992 show higher rates of illicit drug use and injection drug use by street youth than rates of drug use among youth living at home.[19,20,21,22] Needle sharing and unsafe sexual practices are common among street youth who inject drugs. Among street youth who inject drugs, the likelihood of HIV infection is related to lower age, being unemployed and being involved in prostitution.

Aboriginal Canadians are at a high risk of substance misuse and injection drug use as they experience many of the disadvantages associated with drug misuse such as poverty, low education, unstable family structure, physical abuse and poor social support networks.[23] The exact extent of injection drug use among Aboriginal peoples is not known, but Aboriginal peoples have expressed concern about the use of illicit drugs and adverse consequences from drug misuse. Alcohol and other drug misuse are major factors underlying the high rate of death among Aboriginal Canadians from accidents and suicide. Aboriginal peoples comprise a disproportionately high percentage of those using needle exchange programs and drug treatment facilities in several cities.[24] Although this signifies adoption of harm reduction practices, it may mean higher levels of injection drug use among Aboriginal than non-Aboriginal Canadians. Also, Aboriginal Canadians are over-represented among some prison populations in this country and may be more likely to have engaged in injection drug use than non-Aboriginal inmates and to do so at an earlier age.[25]

The relationship between injection drug use and the prevalence of HIV, hepatitis viruses and other blood borne pathogens among incarcerated Canadians is significant and important to note. Incarcerated individuals are at particular risk because of engaging in high risk behaviours such as injection drug use and because of factors such as low education, dysfunctional family backgrounds, poor social support networks not necessarily because they are incarcerated. Drug use in Canadian correctional facilities is acknowledged to be wide spread and, although numerous measures are in place to address this issue, injection drug use is a leading contributing factor of the increasing prevalence of HIV and hepatitis C. In a study conducted with a focus group of inmates, one author has indicated that 25% of those people studied said they injected drugs for the first time while incarcerated.[26]

Considerable concern arises, in the broader context of public health and safety, given that inmates are less likely to have access to clean injection equipment and are not aware of or concerned with the potential consequences of injection drug use.

It is reasonable to assume, therefore, that without considerable efforts to provide appropriate treatment and reduce the harms associated with injection drug use, the potential transmission of HIV, hepatitis viruses and other blood borne pathogens will extend beyond the perimeters of formal correctional facilities into Canadian communities and the population at large.

A detailed description of the health and social issues associated with injection drug use is presented in Appendix A.

3. The Costs

The economic costs associated with injection drug use are substantial. Although a separate estimate of the costs attributable to injection drug use is not available, it is clear that the majority of the total cost attributable to drug use stem from injection drug use. In 1992, before the recent escalation of HIV and hepatitis C infections associated with injection drug use, the costs related to illicit drug use were conservatively estimated at $1.4 billion per year.[27] Injection drug use accounted for the majority of the deaths and much of the crime caused by drugs. The largest economic cost ($823 million) was for lost productivity due to morbidity and premature death, and substantial portions of the costs ($400 million) were for law enforcement. The change in drug of choice from heroin to cocaine, for those who inject drugs, is augmenting the urgency of the situation due to the greater frequency of injection associated with cocaine use.

The lifetime average direct cost of providing HIV/AIDS treatment to each person newly infected with HIV who injects drugs is estimated to be $150,000.[h,28,29,30] A study estimated that the direct and indirect costs of HIV/AIDS attributed to injection drug use would be $8.7 billion over a six year period if trends continued.[31] Another study modeled the impact of a 10% reduction of risk activity resulting from a $200 per person per annum intervention in high risk, high prevalence communities and predicted that 164 HIV infections would be prevented over five years.[32] Taken together, the results suggest that an annual investment of $1 million per year over five years could result in a return on investment or savings in subsequent costs of as much as $24 million.

h Costs include physician billings, hospital inpatient nights, emergency visits, counseling and formal support, hospital clinic visits, alternative therapy visits, drug costs and lab tests. Residential home care and community home care costs are excluded (Hanvelt, R., Copley, T., Schneider, D. & Meagher, N. *The Economic Costs and Resource Impacts of HIV/AIDS in BC (Community Health Resource Project, Sept., 1, 1999).* NHRDP Project No. 6610-2372 AIDS)

An estimate of the cost to treat a person infected with hepatitis C is not available, but a study of the economic impact of hepatitis C in Canada is currently underway. It is known, however, that treatment with Rebetron, a drug commonly used for hepatitis C, may cost up to $30,000 per course of treatment for an infected individual. A liver transplant may cost up to $250,000.[33] According to the Canadian Institute for Health Information, there were 338 liver transplants in Canada in 1998.[34]

The Medical Research Council estimated in 1999 that 217 of these transplants are attributable to hepatitis C infection. It is anticipated that this figure will triple by 2008 and hepatitis C will become the leading cause of liver transplants.[35] Because the prevalence of hepatitis C is much higher than HIV infection, the medical costs to treat it are expected to exceed those for HIV.

4. The Context for Comprehensive Action

Comprehensive actions to address injection drug use rest on the foundation of a number of key perspectives, initiatives and partnerships that already exist and are vital to long-term positive outcomes. The foundation for comprehensive action on injection drug use is formed by a population health perspective, the broader context of Canada's Drug Strategy, the Canadian Strategy on HIV/AIDS, and the Hepatitis C Prevention, Support, and Research Program, and the commitment to a long-term, multisectoral and nationally coordinated approach.

A Population Health Perspective

It is widely accepted in Canada that the health of the individual cannot be separated easily from the health of society.[36] Governments at all levels can facilitate and create conditions within the social and physical environment that support and enhance health.

A population health approach, aimed at addressing those determinants of health[i], whose lack may precede and/or exacerbate drug misuse, is a necessary component of a comprehensive drug strategy. Strategies should be based on a population health approach and address the range of factors, that determine health and well being, and consider the underlying reasons and conditions that put people at risk of misusing drugs, such as marginalization, inadequate support networks, lack of access to effective health services and addiction programs, poor coping skills, unhealthy child development, and mental health problems. A comprehensive strategy to reduce the harm associated with injection drug use includes measures to address the underlying factors associated with drug misuse as well as measures to address the more immediate risk factors among those who are injecting drugs.

i Evidence indicates that the key factors that influence population health are income and social status, social support networks, education, employment and working conditions, physical environments, biology and genetic make-up, personal health practices and coping skills, healthy child development, health services, gender and culture. Health Canada. *Strategies for Population Health: Investing in the Health of Canadians*. 1994.

Canada's Drug Strategy

Canada's Drug Strategy addresses drug misuse first and foremost as a health issue. The strategy has the long-term goal to reduce the harm associated with alcohol and other drugs to individuals, families and communities. The ongoing work of Canada's Drug Strategy to support a continuum of intervention from prevention to treatment and rehabilitation is vital to the success of the injection drug use initiatives put forth in this report. Also, specific initiatives to address injection drug use in Canada are in a position to complement and build upon the broader work and strengthen the harm reduction approach of Canada's Drug Strategy.

Canadian Strategy on HIV/AIDS

The Canadian Strategy on HIV/AIDS has six goals: prevent the spread of HIV infection in Canada; find a cure; find and provide effective vaccines, drugs and therapies; ensure care, treatment and support for Canadians living with HIV/AIDS, their families, friends, and caregivers; minimize the impact of HIV/AIDS on individuals and communities; and minimize the social and economic factors that increase individual and collective risk for HIV. These goals and the three policy directions which guide implementation of the Canadian Strategy on HIV/AIDS – enhanced sustainability and integration, increased focus on those most at risk, and increased accountability – are consistent with the approach taken in this paper.

Hepatitis C Prevention, Support, and Research Program

The Hepatitis C Prevention, Support and Research Program is a federally-funded, $50 million dollar initiative spanning 1999/2000 to 2003/2004. The Program was developed in consultation with a range of stakeholders and intends to increase awareness, promote positive prevention behaviours, expand research activity, and augment the government's capacity to respond to this health threat. There are five components: Prevention; Care and Treatment Support; Research; Community-Based Support; and Management. The goals of the Program are to contribute to the prevention of hepatitis C infection, promote the development and availability of tools and mechanisms in support of persons infected with or affected by hepatitis C, expand research availability and capacity, and strengthen the response of the Canadian population to hepatitis C through increased awareness.

Coordinated and Long-Term Action

Successful programs to reduce the harm associated with drugs require consistent action over time. Commitments should be adequate and sustained to establish, implement, coordinate and ultimately evaluate realistic and long-term plans and programs.

There is strong support for a multi-sectoral, coordinated and long-term strategy to address injection drug use and its related health and social problems. The importance of collaboration is paramount, requiring involvement of addictions, justice, health and social

services, law enforcement officers, correctional services, Aboriginal peoples, community stakeholders, those involved in injection drug use and others. Action at all levels is essential to build synergies, overcome tensions, avoid duplication and provide a comprehensive long-term response to injection drug use.

5. A Harm Reduction Approach

To achieve results in the long term, it is important to strengthen our efforts to prevent the misuse of all drugs and to enhance treatment, rehabilitation, care, and support. Actions which are successful at preventing or reducing drug use in the first place can be viewed as contributing in the long-term to a reduction in the overall harm associated with injection drug use. However, the urgency, seriousness, and reality of injection drug use in Canada requires a national response that also focuses on addressing the immediate risk factors for people who are injecting drugs as part of a continuum of addiction interventions. To this end, this report contains recommendations for initiatives and programs that provide opportunities for people who inject drugs to reduce the harms to themselves without the prerequisite of reduction or cessation of use.

There is a lack of consensus on the definition of the term "harm reduction". However, the concept has provided an initial rationale for a variety of innovative approaches to drug issues. Some people would restrict harm reduction to policies and programs that focus on reducing the adverse consequences of use without necessarily restricting use per se. However broad or narrow the continuum may be, it is clear that few dispute the desirability of reducing drug-related harm. Some discussions suggest that it may be more effective to adopt an empirical definition of harm reduction; interventions are considered harm reduction only in so far as they actually reduce drug-related harm.[37] As such, it is difficult to determine whether a program is harm reduction without examining evidence of its impact. In keeping with this conceptualization, harm reduction can be viewed as the middle ground where persons with widely differing views on drug policy can agree with one another regarding practical, immediate ways to reduce drug-related harm.

Experience in other countries and in Canada shows that addressing the harm associated with injection drug use reduces drug-related health risks to individuals, their families and communities, improves the social and economic status of individuals, and subsequently reduces the health, social, justice and enforcement costs. Use of harm reduction strategies reduces the likelihood that people who use drugs will contract or spread HIV, the hepatitis C virus, and other pathogens, overdose on drugs of unknown potency or purity, or otherwise harm themselves or other members of society.

Other countries have tested and implemented various innovative approaches to reducing the harm associated with injection drug use. Canada should look to the experiences and evaluation results of other countries and test and evaluate initiatives that apply to the Canadian context.

A detailed description of national and international experiences is presented in Appendix B.

Goals

This report proposes four goals to guide the reduction of harms from injection drug use:

- increasing efforts to address the determinants of health and underlying factors associated with drug misuse;
- reducing injection drug-related mortality and morbidity;
- reducing the incidence and prevalence of injection drug use; and
- reducing the costs and other health, social, and economic consequences of injection drug use.

Principles

The following key principles underpin the approach to injection drug use outlined in this paper:

- injection drug use should be regarded first and foremost as a health and social issue;
- people who inject drugs should be treated with dignity and have their rights respected;
- services should be accessible and appropriate and should involve people who inject drugs in all aspects of planning and decision making;
- programs and policies should take into account diversity among the injection drug using population such as gender, culture, age, geographic location and polydrug use; and
- the community and stakeholders should be involved in the responses.

6. Framework For Action

It is imperative that immediate action be initiated within a framework of: prevention; outreach; research, surveillance and knowledge dissemination; treatment and rehabilitation; and national leadership and coordination. This framework supports the development and enhancement of multi-level strategies and actions to reduce the harm associated with injection drug use in Canada. It is important that it be adapted to meet the needs of various communities, jurisdictions, and diverse populations of people who inject drugs. Immediate actions are presented below and a comprehensive approach with actions for both the immediate and longer-term is presented in Appendix C.

Prevention

Prevention is an essential part of any comprehensive approach to substance misuse. Prevention can reduce the incidence of substance misuse and injection drug use in the long term. Prevention strategies (including public awareness, education, skill development, social marketing, community action, and policy development) work together over time to shift attitudes, knowledge, behaviours, and social conditions in ways that reduce the chances that someone will begin misusing drugs in the first place, particularly for youth, or begin using them in more harmful ways, such as by injection.

Recommended Actions

- Develop and enhance initiatives that address the underlying factors and conditions that put people at risk of misusing drugs, particularly by injection.
- Develop and enhance initiatives that address the underlying factors and conditions that put people at risk of engaging in unsafe injection practices.
- Develop and enhance initiatives that focus on at high risk youth and the prevention of injection drug use.

Outreach

An integral part of reducing the harm associated with injection drug use is outreach work. Peers are most effective in reaching people with drug problems, and are often seen as the most credible and trustworthy people to provide them with information to reduce the risk associated with drug use and link them with health, social, and addiction services. Peers are also in the best position to provide referrals to drug user groups and networks.

It is necessary to reduce particularly high-risk behaviours associated with injection drug use such as those leading to HIV and hepatitis B and C (needle sharing), and overdose. Needle exchange programs are a classic example of outreach. Needle exchange programs in Canada exchange millions of needles and syringes annually. A fundamental rationale for their establishment is that people who inject drugs share needles, syringes and other injection materials, a frequent mode of transmission of HIV, hepatitis B and C viruses and other blood borne pathogens. Needle exchange programs convey educational messages about the health risks of injecting and provide bleach kits, counseling, referral and support and other services. The availability of needle exchange has not led to an increase in drug use. Needle exchange programs have, however, reduced rates of needle sharing among clients, linked many drug users with health, addictions, and social support systems, reduced rates of occupational exposure for correctional services personnel and taken used needles out of circulation.

In Canada, community-based needle exchange programs are one of the important strategies in a harm reduction approach to injection drug use, but it is necessary to improve them, expand them, particularly in rural communities, and consider pilot projects in correctional facilities. Despite concerns expressed by clients and staff of needle

exchange programs regarding enforcement, for the most part, health and enforcement services work well together. It is necessary, however, to be aware of the concerns and to ensure that health and enforcement sectors are working toward complementary goals.

Despite the availability of needle exchange programs in Canada, the actual injection of drugs may take place in an unsafe or unhygienic environment, increasing the risk of overdose and infection. In some countries, supervised injection sites[j] are provided to decrease these risks. Supervised injection sites are legally accepted and medically supervised facilities designed to provide people who use drugs by injection with a safer and more hygienic site where they can inject drugs. They are provided in order to reduce the hazards of unsafe injection practices and also to counteract the public order problems associated with illegal injection drug use and are considered to be a low threshold service usually embedded within a harm reduction strategy. There are some positive evaluation data from countries that have tested and implemented supervised injection sites. Some results show decreased rates of overdose, fewer needles found in the environment, fewer people injecting in public, and reduced criminality. There is much discussion regarding the effectiveness, feasibility, and applicability to the Canadian context.

Recommended Actions

- Work with law enforcement, justice, all levels of government, community groups and others to enhance the implementation, accessibility and effectiveness of needle exchange programs and reduce the barriers in all settings in Canada, including the consideration of pilot projects in correctional facilities.
- Support outreach and networking initiatives at all levels to foster and increase harm reduction initiatives, increase access to effective health, social and treatment and rehabilitation services, and enhance social integration and reintegration (e.g. prisoners returning to their communities upon release from a correctional facility).
- Foster the involvement of people who use drugs by injection and drug user networks in reducing the harm associated with injection drug use.

Treatment and Rehabilitation

The broad economic and social policies in Canada should recognize and deal with addiction and drug use as a barrier to growth, social cohesion and population health. For each citizen to have the opportunity to participate in society and the economy, it is important to provide immediate and compassionate care to those individuals experiencing substance misuse and injection drug use problems.

The availability of and accessibility to a range of addiction treatment options is an essential component of a comprehensive response to injection drug use. The options offered should be based on evidence of efficacy while recognizing the importance of

j In some countries, these sites are referred to as supervised consumption sites, since the drugs may be consumed in ways other than by injection.

including a range of services and treatment philosophies (e.g. professional counseling, peer counseling, detoxification, residential, referral and community service coordination and housing).

Methadone maintenance treatment, which includes a range of ancillary supports, is an effective means of reducing injection drug use, needle sharing and the harm associated with the injection of opiates and criminal activity. Since the rates of illicit drug use, mortality, and transmission of pathogens such as HIV and the hepatitis C virus have risen to serious proportions, it is imperative to increase the availability of and accessibility to effective methadone maintenance treatment, including in correctional facilities and rural areas. It is also necessary to ensure that methadone maintenance treatment is closely linked to complementary health, social, and addictions services. These services often include counseling, job training, and help in returning to school.

Some countries with highly developed systems for methadone maintenance treatment have found that a substantial proportion of heroin users remain resistant or refractory to this mode of treatment. These individuals tend to be long-term heroin users, have experienced several failures with methadone maintenance treatment, and are often currently diagnosed with psychiatric illnesses. It is important to note that, even in countries that are testing and using heroin as a treatment option for a select population, methadone maintenance treatment continues to be the best option and gold standard course of treatment for the majority of clients.

Recommended Actions

- Increase the availability of and address barriers to effective substance misuse treatment and rehabilitation programs, including methadone maintenance treatment, in all settings, including correctional facilities.
- Support, in principle, clinical trials to assess the treatment effectiveness of the prescription of heroin, LAAM, buprenorphine, and other drugs in the treatment of people who inject drugs.[k]

Research, Surveillance, and Knowledge Dissemination

Addiction research and research directed at injection drug use in particular are critical to maintain a sound base of evidence that reflects current knowledge about drug use prevalence and trends, best practices and program outcomes. It is particularly important to remain abreast of the innovative and alternative approaches that are being piloted, evaluated and adopted in various countries. In this way, it is possible to learn more about options for program and service expansion and alternate methods of delivering existing programs, including varying thresholds for eligibility.

k Proposals for clinical trials would have to be reviewed and approved by peers and regulators before they could be undertaken.

Recommended Actions

- Monitor innovative approaches used in other countries to address injection drug use and assess their applicability to the Canadian context.
- Develop a framework for reporting regularly using agreed-upon indicators on injection drug use and its consequences, develop the tools necessary to collect and disseminate the relevant data and information, and monitor progress made to address this critical issue.
- Establish a task group consisting of, at a minimum, law enforcement, justice, health and social services, addiction and community perspectives to conduct a feasibility study of establishing a scientific, medical research project regarding a supervised injection site in Canada.
- Improve surveillance of the injection drug use situation and its consequences in Canada through data collection, targeted studies, and research to assess causes, co-factors, and effectiveness of interventions.
- Enhance knowledge dissemination and education regarding injection drug use, its determinants, and its health and social effects for health and social service professionals, enforcement and justice officials, persons who inject drugs, inmates in correctional facilities and the community at large.
- Conduct research on Canadians' attitudes regarding harm reduction principles and specific harm reduction strategies.

National Leadership and Coordination

There is currently significant national collaboration and coordination with respect to substance misuse, HIV/AIDS, hepatitis C, and other issues linked to injection drug use through interdepartmental working groups, federal/provincial/territorial committees, etc. However, it is necessary to enhance the links among these existing mechanisms to ensure focused collaboration and dialogue on the cross issue of injection drug use.

For example, a focus on reducing the harm associated with injection drug use requires strong partnerships between health and enforcement sectors. Collaboration is necessary to reduce tensions, build synergies, and ensure that both sectors are working together to achieve complementary goals. The efforts of one sector should not impede the work of the other. On the contrary, collaboration between health and enforcement at national, provincial/territorial, and local levels is vital to reduce the harm associated with injection drug use.

A national Health and Enforcement in Partnership (HEP) initiative, involving both government and non-governmental organizations representing health and enforcement sectors, facilitates cooperation between health and enforcement at the national, provincial/territorial, and local levels.

Recommended Actions

- Provide leadership and coordination to establish an intersectoral, multi-level dialogue regarding injection drug use.
- Provide leadership and collaborate with colleagues from other ministries/departments/jurisdictions to promote the adoption of policies and practices that reduce the harm associated with injection drug use.
- Foster intersectoral action through mechanisms such as the Health and Enforcement in Partnership (HEP) initiative to achieve the objectives of this framework for action.
- Given the magnitude of the problem in Canada, it is clear that investment in addressing the harms associated with injection drug use will result in savings in health and social costs. It is time to examine and commit or realign resources to this important health and social issue.

7. Next Steps

In taking the next steps to address injection drug use, governments and other stakeholders should:

- recognize the importance of injection drug use as an urgent health and social issue requiring both short and long-term action;
- adopt the goals and principles as outlined in this paper;
- endorse the continued collaborative work of federal/provincial/territorial colleagues and other stakeholders in reducing the harms associated with injection drug use;
- support the priority actions identified to reduce the harms associated with injection drug use and demonstrate leadership within respective jurisdictions; and
- use the framework, as appropriate, to develop comprehensive, strategic action plans to reduce the harms associated with injection drug use in Canada.

8. Conclusion

The injection use of drugs is a health and social issue with dramatic costs and consequences for individuals, families and communities in Canada. It is time for a multi-level national dialogue and comprehensive action. The dialogue and action should acknowledge the seriousness of injection drug use, respect the rights and dignity of those who inject drugs, reflect a population health perspective, work within the broader context of Canada's Drug Strategy, the Canadian Strategy on HIV/AIDS, and the Hepatitis C Prevention, Support, and Research Program, and demonstrate a commitment to a long-term, multisectoral, and coordinated approach.

It is time to start paying attention to the overwhelming evidence of the urgent need to address injection drug use in this country. It is time for all jurisdictions and stakeholders to work together to renew their commitment to reducing the harms associated with injection drug use. Now is the time to act for a healthier future for those who inject drugs and ultimately for all Canadians.

Appendix A
A Detailed Description of the Health and Social Issues

Introduction

The injection use of drugs represents a significant and increasingly important public health issue in Canada today. Indeed, the problems associated with the use of drugs by injection are reaching crisis proportions in many Canadian communities. The injection use of drugs accounts for the major share of deaths and hospitalizations attributed to illicit drug use. It is a leading cause of HIV, hepatitis and other blood borne infections. It is also associated with family dysfunction and crime. The use of drugs by injection is a major problem in Aboriginal communities and a major concern in correctional facilities. Other high-risk populations include street youth, women, children, men who have sex with other men (MSM) and sex trade workers. The problems of injection drug use have significant implications to research, to HIV and hepatitis prevention programming and to harm reduction programming in correctional facilities and in the general population.

The purpose of this appendix is to provide an overview of the determinants of drug misuse and the health and social issues involved with injection drug use in Canada. Information is summarized on the extent of drug use by injection and socio-demographic characteristics of Canadians who use drugs by injection. The consequences of injection drug use are then discussed, including health, social and economic impacts. Indicators of the seriousness of the problem among Aboriginal peoples, inmates and other marginalized populations are presented.

Determinants of Drug Misuse

Poverty, homelessness, lack of education, family dysfunction and parental substance misuse and mental health problems, and a history of child abuse are all social determinants that place people at higher risk of misusing drugs, of using them by injection, and thereby acquiring a blood-borne pathogen, overdosing, or experiencing other associated harms. For example, poverty, lack of education, poor academic achievement and dissatisfaction with school are risk factors for substance misuse in youth.[38] HIV outbreaks in Vancouver were strongly associated with needle sharing and unstable housing.[39] Shortages of adequate housing are a problem for many inner city residents as well as Aboriginal peoples in First Nations communities.

A history of having been a victim of child abuse is common in both men and women who misuse drugs. A review of several studies on women in alcohol treatment facilities found that 53-85% of women gave a history of incest or sexual abuse.[40] Histories of neglect and abuse in childhood have been identified among adults and their sexual partners who use injection drugs.[41,42] Adolescent survivors of sexual abuse were found also to be at high risk of acquiring HIV.[43] Sex trade workers have higher rates of sexually transmitted infections and substance misuse problems than the general population. Children involved in juvenile prostitution frequently have been victims of child sexual abuse.[44]

Lack of family functionality is also associated with subsequent increased risk of substance misuse. Many youths who misuse injection drugs may be replicating behaviour of their parents.[45] Access to supports and positive role models can help people to learn how to cope with their problems and to avoid high risk behaviours such as injection drug use.

The Prince Albert Seroprevalence Study, a joint research effort of the Prince Albert Health District, Saskatchewan Health and Health Canada, reported that the 247 people who injected drugs and their sexual partners who were surveyed stated that, of the adults who raised them, 65% had problems with alcohol, 18% misused drugs and 34% had mental health problems. Sixty-three percent stated that they had witnessed abuse between their parents. Fifty-eight percent lived away from home for at least one year before the age of 16. These rates are similar to those found in other studies.[46]

Extent of Injection Drug Use in Canada and its Relationship to the Determinants of Health

National estimates of the extent of drug use by injection in Canada are not well established[1]. However, provincial estimates indicate that there are 30,000 people who inject illicit drugs in Ontario (1997),[47] 15,000 in British Columbia (1998)[48] and 23,000 in Quebec (1996).[49] Based on provincial and city estimates, it has been estimated that approximately 100,000 people inject illicit drugs in Canada. In addition, 29% of young people who use steroids report injection use, indicating that there are an additional 25,000 Canadians who inject steroids.[50] Thus, the best estimate of the total number of Canadians injecting illicit drugs or steroids would be approximately 125,000.

The use of drugs by injection is most common in Montreal, Toronto and Vancouver. It has been estimated that there is a combined total of almost 37,000 in these three cities.[51] Although the problem is most apparent in the largest urban centres, it is by no means confined to these areas and individuals who inject drugs are mobile and may move between cities and various areas of the country.[52,53]

The most commonly injected illicit drugs are cocaine and heroin, but Talwin, Ritalin, amphetamines and pharmaceutical narcotics such as morphine have also been used by injection in some areas of Canada at various times. The drug of choice for people who inject drugs in most Canadian communities is cocaine, followed by heroin.[54] This is a cause for concern in itself, as cocaine use involves particular risk of infectious disease. Persons who inject cocaine do so as often as twenty times a day, increasing the problems associated with obtaining clean needles and sharing contaminated needles.[55]

1 A major reason for the lack of more precise estimates on the extent of injection drug use in Canada is that information regarding rates and patterns of illicit drug use relies extensively on survey data. It is well known that surveys tend to under-represent key at-risk segments of the population such as those without phones, the homeless, hospitalized or institutionalized citizens, and that respondents often underreport their use of illicit drugs in surveys.

General population surveys capture relatively few persons who inject drugs and generally do not include questions regarding injection drug use. The major sources of information on the characteristics of Canadians who inject drugs are therefore treatment data and special studies. A review of the research literature on people who use drugs identified twenty Canadian studies on persons who inject drugs who are in syringe exchange programs or treatment settings.[56] The portrait of the typical Canadian who injects drugs that emerges from these data is one of a relatively young, unattached, poorly educated, low-income male who is unemployed.

The ratio of males to females in these studies vary from 1.6:1[57] to 6.1:1,[58] reflecting differences in outreach and client requirements. The overall average is 3 to 1, indicating that approximately one fourth of people who inject drugs are women. There is no apparent trend in the proportion of people who inject drugs who are women. Women are somewhat younger than males who inject drugs in most studies.[59]

The mean age of the persons who inject drugs ranged from 28 to 35 in these studies, but substantial numbers of people who inject drugs are under the age of 20 in many sites. Thus, for example, teenagers represent more than one in five persons who inject drugs in a 1996 study in Quebec City.[60] Although it is difficult to discern a trend with only a limited number of studies, there are indications that the mean age of clients in syringe exchange programs has increased somewhat over the past few years. The mean age of the five most recent studies is 32 years of age, which is higher than reported for any of the prior studies.

The marital status of persons who inject drugs has been reported in only five of the 20 studies. While the proportion who are single ranges widely from 38% in Toronto[61] to 76% in Alberta,[62] in all five studies it was found that persons who inject drugs are more often single than in the general population and more often single compared with other people who use illicit drugs.

Canadians who inject drugs tend to have lower educational attainment than those who do not. There appears to be a wide range regarding education, but the majority of persons who use drugs by injection in many, if not most, Canadian communities are high school dropouts. The percentage of those who inject drugs that did not complete high school has been reported to be 81% in Vancouver,[63] 63% in a semi-rural community in Nova Scotia,[64] 61% in Quebec City,[65] 57% in Calgary[66] and 52% in Edmonton.[67] Torontonians who inject drugs appear to be more likely than people in other Canadian communities who inject drugs to have completed high school, with 37% having less than a high school education.[68] Even in Toronto, however, the educational attainment of people who inject drugs is much lower than other people who misuse drugs who do not inject.

In most treatment studies, the majority of Canadians who inject drugs do not have regular employment. Unemployment among people who inject ranges from 43% in Cape Breton[69] to 88% in Montreal,[70] 87% in Edmonton,[71] and 77% in Toronto.[72]

In Vancouver, it has been found that 88% of persons who inject drugs are on social assistance.[73] Thus, it is hardly surprising that Canadians who inject drugs generally have low income.

Most studies do not report income, but it is noteworthy that two of five people in Montreal who inject drugs earn less than $10,000 per year and 71% earn incomes of under $25,000.[74]

Supplemental data on the characteristics of persons who inject drugs are provided in a 1997 study of 114 untreated people who use heroin and other opiates in Toronto.[75] The research subjects were sampled in part using a "snowball" technique and the resulting data cannot be considered representative, but the results probably represent the best available information on untreated people who use heroin and other opiates. Those who use opiates are polydrug users. Almost all of the subjects (92%) used heroin and the vast majority (80%) used heroin or other opiates in combination with other drugs: 64% used cannabis, 60% benzodiazepines, 58% cocaine, 33% crack and 13% barbiturates.

The Toronto study of untreated people who use opiates corroborates the patterns found in studies of those in treatment with regard to socio-demographic characteristics. More than four fifths were male (82%) and the majority was between the ages of 31 and 40 (55%). About half (48%) lived in a permanent dwelling while 52% lived in a temporary dwelling such as a shelter, rooming house or at no fixed address. Less than one in ten (9%) had children under the age of 18 for whom they were responsible. Nearly half (47%) had not engaged in any paid employment for the past six months, and only one in six were currently doing paid work (17%). The primary sources of income were social benefits (75% of respondents), illegal activities (67%) and gifts or loans from family and friends (49%). The annual mean total income was $2,238 for the prior month, with the greatest share of total income stemming from prostitution and other illegal activities.[76]

The study of untreated people addicted to opiates also provides additional information regarding the settings in which drug use takes place and the high incidence of mental problems among Canadians who inject drugs. The most commonly reported places where drugs are injected were the home (73% of respondents), someone else's home (66%), public bathrooms (46%), a car (35%), street or alley (25%), a stairway or hallway (21%), an abandoned building (10%), a park or playground (9%) and a crack house or shooting gallery (6%). Those in Toronto reported high rates of mental problems. Serious anxiety was reported by 74% in the prior 30 days and 85% lifetime. Serious depression was reported by 57% in the prior 30 days and 82% lifetime. Other commonly reported mental problems included serious thoughts of suicide (57% lifetime and 16% in the past 30 days), hallucinations (40% lifetime and 12% in past 30 days) and attempted suicide (32% lifetime and 3% in past 30 days). Two fifths had received prescription medication for a mental health problem at some point in their lives.[77]

The Harms

Illicit drug use, and particularly injection drug use, is associated with a variety of problems including health disorders as well as adverse social consequences such as crime, family dysfunction and addiction and workplace problems. Municipal health, social service and law enforcement officers and correctional services personnel are facing an increasingly difficult task in dealing with illicit drug misuse and its consequences at the local level.

The use of illicit drugs by injection is not only a leading cause of HIV and hepatitis C infections and other communicable diseases; it is also a major factor in deaths and hospitalizations from other causes among youth. Injection drug use is also a contributory cause of property crimes and crimes of violence, and it negatively impacts on productivity.

Health Impacts

Recent estimates of mortality and morbidity attributable to drug use indicate that the major causes of death attributable to illicit drug use are drug overdose, suicide and AIDS,[78,79] all of which are highly associated with injection drug use. The total number of deaths attributed to illicit drugs in Canada in 1995 is estimated at 804.[80] Of this total, 329 were due to suicide and 297 were due to overdose from cocaine, heroin or other illicit drugs. AIDS is another significant cause of death related to illicit drugs, with 83 identified AIDS deaths attributed to injection drug use in that year.

Injection drug use also contributes substantially to drug-related morbidity. There were an estimated 6,925 hospitalizations as a result of illicit drug use in Canada in 1995.[81] Most drug-related morbidity is for treatment of drug dependence and it is likely that most of the hospitalizations caused by drug use involve persons who inject drugs. The largest numbers of drug-attributable hospitalizations were for drug psychosis (1,777), cocaine dependence (980) and opioid dependence (736). However, there were also considerable numbers of hospitalizations for acute causes, such as being a victim of a drug-related assault (975), psychotropic poisoning (602) and opiate poisoning (511). In 1995 there were also 194 hospitalizations where AIDS was recorded as the primary diagnosis which were attributable to injection drug use.[82] Other health problems are also associated with injection drug use. These include abscesses, infections, phlebitis and endocarditis.

The severity of health problems associated with drug use is further underscored by information from the study of untreated people who use opiates in Toronto.[83] More than half reported that they are currently experiencing severe health problems. Four fifths (80%) had seen a physician about a health problem, almost two thirds (62%) had used an emergency room service and one third had been hospitalized in the prior twelve months. Half of the sample had experienced a drug overdose in their lifetime and one in ten had overdosed in the past month. One third of those who had ever overdosed reported that they had never received any medical treatment for any of these incidents.[84]

Of particular concern is the linkage between injection drug use and blood borne pathogens. It is well established that the use of injection drugs and steroids represents a major risk factor for contracting HIV, hepatitis and other communicable diseases. Persons who use drugs by injection can transmit HIV to their sexual partners via sexual contact and to other people who inject by sharing needles. In the latter case, the transmission of disease may occur when blood is transferred from an infected person to another person by sharing unclean needles, syringes or other drug paraphernalia. As much as 40% of people who use drugs are in a sexual relationship with someone who does not.[85]

Moreover, many people who use or their sexual partners are women of childbearing age, and are therefore at risk of transmitting HIV to the fetus or their child during childbirth or through breastfeeding. The use of drugs by injection is thus particularly risky for the transmission of blood-borne infections such as HIV and hepatitis C.

While the use of drugs by injection accounts for a substantial number of deaths and hospitalizations due to AIDS, it is perhaps more important that injection drug use is also an increasing risk factor in new cases of HIV infection. The proportion of reported adult HIV positive cases attributed to injection use of drugs has increased from 8.9% prior to 1995 to 29.8% in 1995, 33.8% in 1996, 33.0% in 1997 and 28.4% in 1998 and 28.3% in 1999.[86] There are similar trends regarding the role of injection drug use in the incidence of hepatitis B and C. It is estimated that between 210,000 and 275,000 Canadians are infected with hepatitis C. Estimates also indicate that there may be 4,500 new hepatitis C infections occurring annually in Canada, of which, at least 63% is related to injection drug use.[87] It has also been estimated that approximately one-third of new hepatitis B infections in Canada are also associated with injection drug use.

Mental health issues and injection drug use may also have a high degree of co-occurrence, but mental illness may be undiagnosed or untreated among those using drugs by injection. Recent epidemiological studies have shown that between 30% and 60% of people with drug problems has concurrent mental health diagnoses including personality disorders, major depression, schizophrenia, and bipolar disorder.[88] Although people with schizophrenia comprise a small percentage of the population who misuse drugs, there is an extraordinarily high rate of drug misuse among people with schizophrenia. People who misuse drugs and have a mental illness are more likely to engage in behaviours that increase risk for HIV/AIDS and hepatitis C, such as needle-sharing. In addition, a concurrent mental disorder can complicate drug treatment in a multitude of ways. For example, research suggests that clinically depressed individuals have an exceptionally hard time resisting environmental cues to relapse back into drug use.

Social Impacts

In addition to these health effects, concern has been expressed regarding a number of other social problems. In the most recent national survey focusing on drug use, those who use drugs were asked about harms resulting from their use. The most common problem mentioned was an adverse health effect (mentioned by 18%), but substantial numbers mentioned work or studies problems (13%), financial effects (13%) or problems with their friendships (11%), home life (10%), spouse or partner (6%) or children (3%).[89]

The cognitive effects of drugs, including negative effects on short-term memory, attention and organization of complex information, can adversely affect work performance among people who inject drugs who are employed and school performance among those in school. As noted earlier, there are low rates of educational attainment and exceptionally high rates of unemployment among people who inject drugs who are in treatment[90] and among untreated people who use opiates.[91] Drug use, and particularly injection drug use, is also related to family disorder, as well as spousal or child abuse.[92]

Drug misuse is also linked to crime in several ways. First, the possession of illicit drugs is a criminal offense in itself. Second, drug misuse has been implicated as a cause of other types of crime. Chronic or dependent use of the so-called "hard" drugs–heroin, cocaine or crack, and speed–is often implicated as a contributory cause of property crime, particularly burglary and theft. Assault, homicide and other crimes of violence resulted from "turf wars" in the illicit drug market.

There is no doubt that the injection use of illicit drugs and engaging in criminal activity are strongly related to one another. Criminal offenders have disproportionately high rates of illicit drug use.[93,94] Up to 80% of offenders report using illicit drugs during their lifetime, 50-75% show traces of drugs in their urine at the time of arrest, and close to 30% were under the influence of drugs when they committed the crime for which they were accused.[95] People who use needle exchange programs or are in drug treatment often have criminal records.[96] For example, more than four-fifths (81%) of people from Toronto who inject drugs have been incarcerated since they began using by injection.[97]

It should be noted, however, the causal connection between drug use and crime is not well established. Many drug dependent persons adopt a way of life that may account for both their drug use and their criminal behaviour. A number of longitudinal studies have shown that drug use and criminality are related to a similar set of socio-demographic and personality variables–e.g., poverty, poor future career or income prospects, and a low investment in social values.[98,99,100] There is little doubt that drugs are a contributing causal factor in some crimes, but the fact that a crime is committed by a drug user, even when he or she is under the influence of drugs, does not necessarily mean that the crime can be ascribed to drug use.

The pharmacological effects of the drugs themselves account for few crimes, and a substantial proportion of crimes attributable to drugs stem from the fact that people must obtain their drugs from a violent and high priced illicit market. Much of the relationship between drug use and crime stems from the fact that some have a lifestyle involving both drug use and criminality, and it is not at all certain that the criminality would not occur without the drug use.

Economic Consequences

The economic costs of illicit drug use in Canada have been estimated at more than $1.37 billion for 1992.[101] Although there are no estimates of the economic costs attributable solely to the injection use of drugs, it is clear that a substantial portion–indeed, most–of the costs of drug use involve injection drug use. Injection use of drugs accounts for many of the deaths and much of the crime caused by drugs. The largest economic cost ($823 million) is lost productivity due to morbidity and premature death, and substantial portions of the costs ($400 million) are for law enforcement. The use of drugs by injection is also involved in much of the direct health care costs due to drugs, which are estimated at $88 million. Direct government costs in British Columbia for injection drug use in 1997 were estimated at $96 million, which included $17 million for health care and close to $79 million for law enforcement.[102]

Furthermore, these cost estimates derive from prevalence-based models which assess the economic impact of past drug use. Incidence-based estimates, on the other hand, consider the present and future economic impacts of new cases of drug misuse in the current year. Given the relatively long latency periods of blood borne infections such as hepatitis and HIV, much of the costs for current infections caused by injection drug use will largely be borne in the future. Therefore, incidence-based estimates would likely result in higher estimates of economic costs of injection drug use compared with prevalence-based estimates. For example, an Ontario study of persons who inject opiates estimated the annual direct government cost for an untreated person who injects drugs at $49,000.[103] Such costs are particularly high for Canadians who inject drugs and are HIV positive. The lifetime direct medical cost for each HIV case has been estimated at approximately $150,000.[104,105,106] In 1996, there were approximately 2,100 new cases of HIV attributable to the injection use of drugs in Canada. Therefore, the projected estimated total lifetime costs for these individuals alone (i.e., persons who develop HIV as a result of injection drug use in just one year) amount to $315 million.

An estimate of the cost to treat a person infected with hepatitis C is not available, but a study of the economic impact of hepatitis C in Canada is currently underway. It is known, however, that treatment with Rebetron, a drug commonly used for hepatitis C, may cost up to $30,000 per course of treatment for an infected individual.

A liver transplant may cost up to $250,000.[107] According to the Canadian Institute for Health Information, there were 338 liver transplants in Canada in 1998.[108] The Medical Research Council estimated in 1999 that 217 of these are attributable to hepatitis C infection. It is anticipated that this figure will triple by 2008 and hepatitis C will become the leading cause of liver transplants.[109] Because the prevalence of hepatitis C is much higher than HIV infection, the medical costs to treat it are expected to exceed those for HIV.

Populations at Particular Risk

The use of drugs by injection, risk behaviours and the various health and social problems associated with injection drug use are particularly prevalent in some marginalized and vulnerable segments of the Canadian population. These populations include Aboriginal Canadians, inmates in correctional facilities, street youth, sexually exploited children, women, men who have sex with men and sex trade workers.

Aboriginal Peoples

It is well established that Aboriginal Canadians are at particularly high risk of substance misuse and injection drug use.[110,111] Aboriginal Canadians have many social disadvantages that are frequently associated with drug misuse–poverty, low education, unstable family structure, physical abuse and poor social support networks.[112] These social disadvantages have been precipitated or exacerbated by discrimination, the after-effects of residential schools and barriers to health care such as language barriers and the lack of culturally sensitive or appropriate services. According to the Canadian HIV/AIDS Legal Network, discrimination finds its roots in a history of oppression, racism, and colonization, and contributes to the disproportionate impact of HIV/AIDS on the Aboriginal community. Due

to high rates of mortality from accidents, suicide, poor nutrition, inadequate access to health care and other causes, Aboriginal peoples tend to have a shorter life expectancy, and therefore, Aboriginal communities tend to have more young people than other communities.

The extent of injection use of drugs among Aboriginal peoples is not known. A Manitoba study found significantly higher rates of drug use among Aboriginal peoples, including the use of heroin and cocaine.[113] Substance misuse is a major factor underlying the high rate of death among Aboriginal Canadians from accidents and suicide.[114]

Aboriginal peoples are over represented among clients of syringe exchange services and drug treatment facilities in western Canada.[115] Among five studies that have reported the ethnicity of clients in needle exchange or drug treatment programs, the proportion of clients who are Aboriginal ranges from 27% in a Vancouver syringe exchange programme[116] to 64% among admissions to Saskatchewan drug treatment facilities.[117] These percentages are far greater than the proportion of Aboriginal peoples in the general population. In 1996, 3% of the population was Aboriginal.

Furthermore, Aboriginal Canadians have higher rates of HIV infection than Canadians who are not Aboriginal. The proportion of people with AIDS who are Aboriginal Canadians has increased from 1% before 1990 to 15% in 1999. Aboriginal peoples with AIDS are younger, more likely to be women, and more likely to be infected by injection drug use compared to those who are not Aboriginal.[118] As of 1999, approximately 24% of AIDS cases among Aboriginal were due to injection drug use. More importantly, between 1995 and 1997 the majority (60%) of newly diagnosed HIV infections among Aboriginal peoples were attributed to injection drug use. These national trends in HIV/AIDS and injection drug use among Aboriginal Canadians are reflected in provincial information as well. For example, a British Columbia Aboriginal HIV/AIDS Task Force found that 16% of new HIV infections involved Aboriginal peoples, while Aboriginal peoples constitute only 4-5% of the population of British Columbia.[119] In Saskatchewan, Aboriginal peoples account for about one half of new HIV infections.

Although there are few data currently available on hepatitis C infection in Aboriginal populations, preliminary evidence suggests that the virus is having a significant impact. For example, a study of 500 street-involved people in Winnipeg, of whom 52% were Aboriginal, showed that 20% of First Nations and 22% of Metis participants were infected with hepatitis C.[120]

Inmates

Inmates in correctional facilities represent a high-risk population with respect to injection drug use, HIV and other blood borne disease. While the incidence of HIV and other disease arising from the injection use of drugs among prisoners is cause for concern in itself, there is an additional concern regarding impacts on the larger community. Large numbers of prisoners flow back and forth between the prison systems and the community. The presence of injection drug use in prisons and the behaviour of prisoners make it likely that blood-borne pathogens such as HIV, hepatitis B and hepatitis C will spread within

that setting and to communities as well.[121] Given the increased risk to communities from released prisoners who may have become infected with HIV, hepatitis C and other diseases while incarcerated, the prevention and treatment of harmful consequences arising from injection drug use in prisons represent important public health issues for all citizens.

As noted earlier, inmates have high rates of injection drug use.[122] Once inside prison, their drug use often continues. A focus group study found that 56% of prisoners in five federal and provincial correctional facilities reported the use of illicit drugs and 28% reported injection drug use during the previous 12 months of incarceration.[123] In a study conducted with a focus group of inmates, one author has indicated that 25% of those people studied said they injected drugs for the first time while incarcerated.[124] With few exceptions, prisoners who inject drugs do not have access to sterile syringes and, consequently, are at high risk of being infected with blood-borne pathogens such as HIV and hepatitis C. Indeed, needle sharing has been found to be more common inside prisons than outside.

The majority of prisoners who injected drugs (64%) reported sharing needles. Sexual activity in prisons is also not uncommon–37% of women and 15% of male prisoners reported engaging in sex with same-sex partners.[125] Tattooing, which also poses a risk of infection transmission if equipment that is not sterile is used, was also reported by one third of the inmates.

The HIV prevalence among inmates of a Montreal medium security prison in 1990-92 was found to be 5.6%.[126] Hankins and her colleagues found 7% of Quebec inmates to be HIV positive in 1993, with higher rates among those who inject drugs (13%).[127] Jurgens notes a 40% increase in reported HIV positive or AIDS cases in prisons from 1994 to 1995.[128] Rates of hepatitis C infection are also very high among inmates. As of October 1999, 18% of federal inmates were known to be infected with hepatitis C.[129] The focus group study of inmates in five federal correctional facilities, noted earlier, found that 21% of inmates had been told that they had hepatitis C.[130] Moreover, in a study of inmates at a Canadian medium-security federal penitentiary, the prevalence of hepatitis C increased from 28% to 33% over a three-year period, and this was associated principally with drug use outside of prison.[131]

The problems of injection drug use among Aboriginal peoples and among inmates are interrelated. Aboriginal peoples are over-represented among prison populations. For example, among the 1,962 persons in custody in Correctional Services of Canada facilities in the Pacific Region in 1997, 20% were Aboriginal.[132] Eighteen percent of federally incarcerated inmates are Aboriginal Canadians.[133]

Aboriginal Canadians in correctional facilities are also more likely to use drugs by injection than non-Aboriginal inmates. A recent survey reported that Aboriginal young offenders aged 12 to 15 were five times more likely to have injected drugs than non-Aboriginal young offenders.[134]

Other Populations at Particular Risk: Street Youth, Women, Men Who Have Sex with Men, and Sex Trade Workers

Street youth: The term street youth refers to children and adolescents who become socially dislocated from their mainstream counterparts and who experience periodic or chronic homelessness.[135] It is generally believed that a major pathway to this marginal lifestyle is the experience of physical, emotional and/or sexual abuse at home.[136] There are no scientifically valid estimates of the street youth population in Canada, but estimates have ranged as high as 150,000.[137] The use of illicit drugs is particularly high among street youth. A multi-site national study of street youth and AIDS in 1988 found high rates of illicit drug use among street youth.[138]

High rates of illicit drug use were also found in subsequent studies of street youth in Toronto[139,140] and in Halifax.[141] The 1992 study of street youth in Toronto found 92% reporting using cannabis, 64% cocaine, 39% crack and 70% LSD.[142] These rates are much higher than rates of drug use among youth living at home.[143]

Rates of injection drug use are also particularly high among street youth. Roy and colleagues found that 36% of Montreal street youth inject drugs, with a high rate of initiation into injection drug use among non-injecting youth over a 1.5-year period.[144,145] Needle sharing and unsafe sexual practices are common among street youth who inject drugs. The proportion of Montreal street youth infected with HIV was found to be 4% and 18% were positive for hepatitis C.[146] Among street youth who inject drugs, the likelihood of HIV infection is related to lower age, being unemployed and engaging in prostitution.

Women: Women are less likely than men to use illicit drugs or use drugs by injection. However, women represent a vulnerable population in other ways. Women are physiologically more vulnerable to the sexual transmission of HIV and other diseases than men.[147] Many authors have noted that women often have less power in their relationships with men and are less able to successfully negotiate with males regarding safer sex practices, such as condom use.[148,149] Furthermore, women who use drugs often depend on their male counterparts for their drugs, or exchange sex for money or drugs, thus increasing their risk of acquiring a communicable disease. It should be noted that interventions are made more difficult by the relative social isolation of many women. HIV and hepatitis C cases can occur from perinatal transmission of the HIV or hepatitis virus to the fetus from a mother infected due to injection drug use. These problems are often exacerbated by other risk factors for poor treatment outcomes that are associated with injection use of drugs, such as poor nutrition, poverty and poor access to pre-natal care.

Men who have sex with men (MSM): There may be particular risks of HIV and other infections for MSM because drug misuse may sometimes contribute to engaging in unsafe sexual practices such as unprotected anal sex. The prevalence of unprotected anal sex is higher among MSM who reported using drugs.[150] For example, a focus group study in six U.S. cities found a "high frequency of unprotected sex in conjunction with drug use and a distinct preference for having sex when high."[151] It should be noted, however, that there is evidence that MSM who use illicit drugs are only more likely to engage in risky sexual

practices with non-regular sexual partners – with steady partners, they are not more likely to engage in risky sexual behaviour.[152] MSM who are injection drug users have the highest risk for HIV/AIDS.

Sex trade workers: Male and female sex workers represent a high risk population because their work entails a large number of sexual contacts with a large number of potentially infected persons. Working in the sex trade is not officially recorded in HIV/AIDS surveillance, and much of our information on sex trade workers is based on samples of street youth or people who inject drugs that may not be representative of the full range of sex trade lifestyles.[153,154] The limited evidence available suggests that male sex workers are well aware of the risk of HIV and other sexually transmitted infections.[155] In the National Men's Survey, male sex workers were not more likely to engage in unprotected anal intercourse compared with other MSM.[156] As with MSM in general, male sex workers are generally aware of the risks involved in unprotected sex and have made changes to their sexual practices to reduce the risk of HIV and other infections.[157] Nonetheless, sex trade workers are at high risk of contracting HIV.

In a Toronto study, ten of the sixteen street youth who tested positive for HIV had sold sex to a male client in the prior six months.[158] Read and colleagues reported that 11% of street youth who had sold sex were HIV positive.[159] A study of Vancouver street youth concluded that even though male sex trade workers are no more likely to engage in risky sexual behaviour than other MSM, they are at a higher risk of HIV infection due to the frequency of engaging in sex, injection drug use and unstable living conditions.[160] Women in the sex trade are similarly at particular risk of HIV and other sexually transmitted infection, compared to other women, as they are often pressured to agree to unsafe sex. People who inject drugs and engage in unsafe sexual practices represent a link by which HIV can spread from people who inject drugs to those who do not.

Appendix B
National and International Experiences

Drug Treatment and Rehabilitation in Canada

Most drug treatment and rehabilitation programs and services in Canada fall under provincial/territorial jurisdiction. The federal government collaborates with the provinces and territories to stimulate the development of innovative treatment and rehabilitation programs, evaluate programs, identify best practices, and disseminate information across the country. Health Canada also manages the Alcohol and Drug Treatment and Rehabilitation Program, through which provinces and territories access funding to improve accessibility to effective programs and services.

Treatment and rehabilitation services in Canada include the following: detoxification services, early identification and intervention, assessment and referral, basic counseling and case management, therapeutic intervention, and aftercare and clinical follow-up. Treatment is offered on an out-patient, day-patient, or in-patient basis, including short-term and long-term residential care. Specific treatment and rehabilitation programs have been developed to address the unique needs of certain target groups of the population, such as women, youth, Aboriginal peoples, driving-while-impaired offenders, and inmates in correctional facilities. Provisions exist in current drug legislation to encourage alternatives to incarceration, such as treatment and rehabilitation, in appropriate circumstances.

Treatment and rehabilitation in Canada has evolved significantly over the past several decades.[161] Prior to the 1950s, treatment tended to be dominated by moralistic attitudes, and most people had little access to treatment, since the predominant view was that these people lacked will power or had personality defects. In the 1950s and 1960s, it was felt that alcoholism, specifically, was a preventable and treatable "disease" rather than a symptom of moral weakness, and 12-step recovery programs became popular. By the end of the 1950s, most provinces and territories had established departments, commissions, or foundations to provide or coordinate addictions treatment, and many new services were made available. As problems with drugs other than alcohol began to increase, these agencies began to expand their mandates to address these emerging issues. The mid 1960s was characterized by a rapid expansion of addictions services. Compulsory treatment for people addicted to heroin was tried in British Columbia, but it ran into a number of problems related to civil rights and public perception.[162] In the 1980s, provincial/territorial agencies became relatively autonomous within their respective health and social service systems, services became more diverse and specialized to meet the needs of various target groups, and a number of treatments based on cognitive, behavioural, and social theories emerged.

Methadone Maintenance Treatment

Internationally, methadone maintenance treatment continues to be the gold standard and most commonly used treatment strategy for opiate dependency. It has been shown to improve health status, increase employment, improve pregnancy outcomes, decrease opioid use, the use of other drugs, crime and incarceration, and have a positive economic effect on society. It has been shown to prevent transmission of blood borne pathogens. One study found that after four years, those who had received no treatment were 4.2 times more likely to have seroconverted to HIV positive than those who had received two or more years of methadone treatment.[163]

Methadone has advantages in that it can be taken by mouth, has a slow onset of action, does not result in continuing tolerance, permits a relatively constant dose over time, does not cause euphoric or sedating effects, is long acting, blocks the euphoric effects of heroin, and is medically safe when appropriately prescribed and dispensed, even when used on a long term basis.

Research from the United States indicates that criminal activities related to heroin use result in social costs that are four times higher than the cost of methadone maintenance treatment. There is a saving to the community of between US$4-$13 for every dollar spent on methadone maintenance treatment.[164] In Toronto, the average social cost of an untreated illicit opioid user has recently been estimated to be $49,000 per year.[165] Methadone maintenance treatment can be provided for approximately $6,000 per year.

Australia, the UK, Switzerland, the Netherlands and Germany, have expanded methadone maintenance treatment over the past decade. It has been closely linked to other essential services for people who inject drugs such as needle exchange, outreach services, education programs, counseling and injection drug user networks.

In Canada, the Office of Controlled Substances within Health Canada controls the sale and manufacture of methadone. To prescribe methadone, physicians must receive an exemption under the *Controlled Drugs and Substances Act*. During consultations, health professionals, licensing bodies and methadone clients expressed the need to increase accessibility to effective methadone maintenance treatment in Canada. In Canada there are 699 physicians authorized to prescribe methadone for narcotic dependence. Stakeholders have indicated that this number is not adequate to satisfy the demand.

Provinces are beginning to take over some responsibilities for administering methadone maintenance treatment but, at this time, the provinces are at different stages of development and implementation in this area. British Columbia has taken the lead in the administration of methadone, and has developed guidelines and training programs for physicians. Ontario and Quebec have also developed guidelines and training for physicians.

Other provinces, including Alberta, Saskatchewan, Manitoba and Nova Scotia are in the process of developing guidelines and/or training programs for service providers. Some provinces charge user fees for methadone maintenance treatment.

In Canada, methadone maintenance treatment is provided primarily in community-based clinics, increasingly in physician's offices, in federal correctional facilities, and in some provincial correctional settings.

Many physicians are reluctant to prescribe methadone for opiate dependency because of issues such as stigma, lack of experience in the field of addiction, and in rural communities, the feeling of being isolated from other essential services.

Methadone maintenance treatment is available in federal correctional facilities in Canada if the inmate was in a methadone treatment program prior to incarceration. The first phase of the Methadone Maintenance Treatment program in federal correctional facilities was modified in March 1999 to allow, in "Exceptional Circumstances", the option of providing methadone maintenance treatment if the inmate has attempted all available treatment and programs and has failed; the health of the offender continues to be seriously compromised by addiction; and there is dire need for immediate intervention. British Columbia, Ontario, Nova Scotia, Saskatchewan, Manitoba, and Quebec offer methadone maintenance treatment programs in prison where it is the continuation of participation in a community based program.

Alternative Pharmacotherapies

In 1997, countries reported to the United Nations regarding the existence of narcotic maintenance programs for people addicted to heroin.[166] Switzerland and the United Kingdom reported use of buprenorphine, Germany and Switzerland reported use of codeine, Germany reported use of dihydrocodeine, Portugal reported use of LAAM, Guatemala, Mexico and Switzerland reported use of morphine, and Guatemala reported use of pethidine. Since then, the United States approved both naltrexone and LAAM as treatment options. France has approved the use of buprenorphine, and it is expected that Australia will add buprenorphine to its list of treatment options.

In the United States, substantial research has been conducted on the use of LAAM for the treatment of opiate dependency. Treatment with LAAM was found to be comparable to methadone maintenance treatment in relation to reduction of illicit opiate use, treatment retention, employment, and involvement in illegal activities and arrests.[167] LAAM has a slow onset and long duration of action, requiring the patient to visit the clinic only every two or three days. Methadone requires daily visits by the client in the early stages of treatment. It is not necessary for patients to take LAAM away from the clinical setting, averting the risk of diversion to illicit markets. LAAM appears to be most effective with patients who require fewer clinic visits. However, it is considered to be less effective for those who would benefit from more intense care and supervision provided by daily visits.

There have been very few reports of toxicity; toxicity reports are generally associated with multiple drug use. Risk of overdose is high when LAAM is taken in conjunction with alcohol, sedatives, tranquilizers, antidepressants, and benzodiazepines. LAAM must be prescribed with caution to patients with hepatic or respiratory diseases or cardiac conduction defects.

Several trials of buprenorphine have demonstrated its efficacy in treating opiate-dependent patients.[168] Buprenorphine reduces heroin use, blocks subjective and physiological effects of other opiates, and augments treatment retention. It can be withdrawn or tapered off with relative ease. However, buprenorphine is subject to misuse. Combining buprenorphine with naloxone reduces this problem. Although buprenorphine is not available on the Canadian market, it can be accessed by physicians through Health Canada's Special Access Program under the Food and Drug Regulations, provided that the company which produces it is willing to provide it.

There is no cocaine substitution treatment available in Canada.

Heroin Prescription

In some countries with highly developed systems for methadone maintenance treatment, a substantial proportion of heroin users, nonetheless, remain resistant or refractory to this mode of treatment. These individuals tend to be long-term heroin users, have experienced several failures with methadone maintenance treatment, and are often currently diagnosed with psychiatric illnesses.

To assist these individuals, the United Kingdom, which has had a long history of heroin maintenance,[169] uses this form of treatment for approximately 1.5% of the people who are addicted to heroin. The Swiss government initiated trials of medically prescribed heroin for treatment resistant heroin addicts in the early 1990s.[170] The trial found a net economic benefit of US$30 per client per day, largely due to reduced criminal justice and health care costs. The success of these trials and the result of a referendum convinced the Swiss government to commit to heroin treatment as part of its treatment continuum for persons who have failed other treatment.

The Netherlands undertook a scientifically rigorous trial of heroin treatment, and other countries (e.g. Germany, Spain) are planning initiatives of their own. A North American scientific consortium - the North American Opiate Medication Initiative (NAOMI) is developing a clinical trial proposal.

It is important to note that, even in countries that are testing and using heroin as a treatment option for a select population, methadone maintenance treatment continues to be the best option and gold standard course of treatment for the majority of clients.

Needle Exchange Programs

Needle exchange programs are well established in the United Kingdom, the Netherlands, Australia and Switzerland.[171] In the United Kingdom, needle exchange programs saw a rapid expansion during the late 80s and early 90s. At the same time, there was an increase in pharmacies which would sell injecting equipment to drug users. The rapid expansion was part of an overall harm reduction strategy that included an "active promotion of safer drug use for injectors".[172]

In an increasing number of prisons in Switzerland, Germany, and Spain, sterile syringes are provided to prisoners.[173] These programs have demonstrated successful outcomes including reduced rates of occupational exposure to used needles by correctional services personnel and the removal of used needles from circulation. An evaluation of needle exchange programs in Swiss prisons indicated the following: consumption of drugs did not increase; syringes were not used as weapons; there were no incidents of needle stick injuries; sharing of syringes among prisoners greatly decreased; there were no new cases of HIV or hepatitis C; injection site abscesses did not increase; there was a decrease in drug related sanctions; a decrease in overdoses and suicides; and staff acceptance of the program increased.[174]

Needle exchange programs are well established in some parts of Canada and are one of the important strategies in a harm reduction approach to injection drug use, but it is necessary to improve them, expand them, particularly in rural communities and consider pilot projects in correctional facilities. Needle exchange programs have never been tried in a Canadian prison. Needle exchange programs should be part of a comprehensive outreach program which conveys educational messages about the health risks of injecting, and provides bleach kits, condoms, safe disposal of used needles, addiction and HIV counseling, HIV testing, referral and support and other services.

Supervised Injection Sites

Some countries are establishing sites where drug users can bring their own drugs and inject them in a supervised, safer environment, and other countries are considering this option. The desirability of supervised injection sites has been raised in many countries. The main purpose stated is to prevent fatal incidents by providing a hygienic setting and supervision. There are also opportunities to link supervised injection sites with adjunct services, such as needle exchange programs.

For example, injection rooms have existed in Germany for several years in some large cities. Frankfurt, has incorporated supervised injection sites into its harm reduction services, which include day or night rest areas and needle exchange programs.

The Frankfurt program has been evaluated and found to meet both the objectives of improving public health and increasing public order in the central city district as well as significantly reducing the number of homeless drug users, incidents of drug-related crime and violence, and drug-related deaths.[175] In Luxembourg, a parliamentary bill has been introduced which proposes hygienic injecting rooms linked to medical assistance.

Switzerland has also incorporated supervised injection sites into its comprehensive strategy to assist drug users, including heroin maintenance, needle exchange programs, and methadone maintenance treatment. Swiss officials report that, given their comprehensive strategy and capacity to assist drug users, supervised injection sites were seen as the next logical step to help people with drug problems.

Discussions on supervised injection sites have also taken place in Denmark.[176]

Member States of the United Nations and the International Narcotics Control Board discussed supervised injection sites during the Forty-third Session of the Commission on Narcotic Drugs. The Board expressed the view "...that Governments, by permitting drug injection rooms and thus condoning such abuse, could be viewed as contravening the international drug control treaties by facilitating, aiding and/or abetting the commission of crimes...{and violating} the spirit, if not the letter of the international drug control treaties."

Other representatives, however, expressed a dissenting view, stating that drug injection rooms were not in contradiction with the international drug control treaties, and elaborated some practical benefits of injecting rooms involving enhanced assistance to long-term drug abusers not yet reached by existing services.[177]

As such, there was no consensus at the meeting of the Commission on Narcotic Drugs in March 2000 regarding whether or not supervised injection sites were in contravention of international drug control treaties.

Drug User Groups and Networks

Several countries have recognized the importance of involving drug users in developing and implementing strategies, policies, programs, and initiatives intended for them. As a result, groups and networks of drug users have been formed to provide these individuals with a stronger voice to affect change. Formal groups exist in some major cities in Canada such as Vancouver, Montreal, Regina and Toronto, and informal groups and networks are emerging across the country.

A major contributor to the success of Australia's response has been the partnerships between injecting drug user groups, government, and health professionals. Since the late 1980s, the Australian government has funded a number of user groups. They are managed and staffed by people who are strongly linked to the injection drug use community and are often former injection drug users. Funding is provided, specifically, for user groups to provide needle provision, peer-education on issues such as HIV/AIDS, hepatitis B and C, safer injecting methods, overdose, and adverse drug interactions. They are seen as a source of credible and easily accessible primary information and referral and provide valuable links between users and services such as alcohol and other drug treatment, counseling, and general health or social services.

Provision of Harm Reduction Information and Education to Drug Users

Drug education materials with a harm reduction focus aimed at high-risk populations are readily available in some countries while, in others, they are extremely controversial and often unavailable. The intention of these materials is not to promote use, but to explain to people who use how to reduce the risk associated with using drugs, especially overdose, transmission

of HIV, the hepatitis C virus, and other blood-borne pathogens. In many countries, outreach workers distribute education material, syringes, condoms and bleach kits as well as help users contact other services.[178]

The United Kingdom provides harm reduction education to young people, acknowledging that taking risks and experimenting with drugs are common adolescent behaviours. The educational materials provide accurate information to youth about how to minimize health and other risks if they use or are going to use drugs.

In Canada, harm reduction information and education materials are often provided through community based needle exchange programs and drug user groups and networks.

Diversion Programs

Diversion programs provide a mechanism to divert people with drug problems away from the traditional justice system. In drug treatment courts, offenders accused of less serious (summary) drug offences are directed to a specialized court where a personalized treatment and rehabilitation plan can be designed using a combination of intense judicial supervision, comprehensive substance misuse treatment, random and frequent drug testing, incentives and sanctions, clinical case management, and ancillary services.

Drug treatment courts have existed in the United-States for over ten years; the over-riding goal is abstinence and law-abiding behaviour. They have demonstrated good retention rates (60% with adults, 70% with youth), and results indicate drug use and criminal activity are substantially reduced during treatment and up to one-year follow-up.[179] To date approximately 200,000 persons have entered US drug treatment courts. Per person, drug treatment courts cost about $2,000 (US) annually, compared to $20,000 to $50,000 for incarceration.[180]

The European Union is trying to put in place a drug treatment court system. However, some member states lack sufficient judicial infrastructure or resources for such alternative measures. Australia and Ireland have set up pilot programs; evaluation results are expected soon.[181]

In early 1999, the Commonwealth Government of Australia gave assent and has set aside over $110 million in order to implement, evaluate and pursue drug diversion programs[182]. These programs are aimed at individuals who have little or no past criminal history and are apprehended for use or possession of small quantities of illicit drugs. Violent offenders are not eligible. The program in New South Wales consists of a special drug court to which eligible offenders are referred from other courts[183]. Participants have their sentence suspended while they undertake individualised drug treatment. Participants who do not comply may be sanctioned by a fine or up to fourteen days imprisonment. Victoria implements a cautionary process; drug offenders are referred by police for assessment and treatment within five days of arrest[184]. The funding for the Australian diversion programs is being provided by both health and law enforcement Ministries at federal, state and territory levels[185].

In Canada, a drug treatment court was established in Toronto on December 1, 1998 as a four-year pilot project for Canada.[186] It is targeted specifically at non-violent offenders who are addicted to crack, heroin or cocaine. Voluntary participants complete the program when they establish social stability in terms of housing, education and/or employment, and eliminate their use of cocaine and/or opiates. At the completion of the program, participants receive a non-custodial sentence, or may have their charges withdrawn.

In Canada, drug treatment courts are being positioned as a more humane approach to addressing minor drug crimes than incarceration. They are a means of supporting entry into treatment for those with a long history of incarceration. Early evaluation results of Toronto's drug treatment court indicate high rates of retention and program participation.[187] Participant comments suggest that the drug court was a real alternative to traditional sentencing and offered them hope for a better life.

Appendix C
Actions for A Comprehensive Strategy

A comprehensive strategy requires partners to work together towards common goals and strategic directions over both the immediate and the long term. It requires integration, coordination, and complementarity of a diverse array of strategies at the local, provincial/territorial, national, and international levels. This section provides a range of immediate and long-term, multifaceted initiatives to reduce the harm associated with injection drug use. These initiatives are presented within a framework for action addressing the areas of prevention; outreach; treatment and rehabilitation; research, surveillance, and knowledge dissemination; and national coordination. The actions highlighted in bold text represent actions to be undertaken immediately. The remainder is intended to reduce harm in the longer-term.

1. Prevention

- **Develop and enhance initiatives that address the underlying factors and conditions that put people at risk of misusing drugs, particularly by injection.**
- **Develop and enhance initiatives that address the underlying factors and conditions that put people at risk of engaging in unsafe injection practices.**
- **Develop and enhance initiatives that focus on high risk youth and the prevention of injection drug use.**
- Identify gaps in existing prevention programs to respond effectively to the particular needs of populations such women, youth, prisoners, the homeless, and Aboriginal peoples.
- Develop tools and resources to enable individuals, families, and communities to acquire knowledge, change attitudes, develop skills, and adopt healthy behaviours.
- Enhance substance misuse prevention efforts that take into consideration the population health approach, e.g. marginalization, disparate social and economic status, levels of education and employment status, and other underlying issues.
- Continue the development of healthy child development strategies that provide the best opportunities for parents and children to improve their life circumstances and that prevent child abuse and other family violence.
- Provide training to those involved in prevention activities, such as outreach workers, teachers, health professionals, peer helpers, enforcement officials, and staff of correctional facilities.
- Develop interventions that identify at-risk school-aged children (ages 5-18) and provide them with the necessary tools to assist them to reconnect to the school/community setting e.g. literacy skills, anger management.

2. Outreach

- **Work with law enforcement, justice, all levels of government, community groups and others to enhance the implementation, accessibility and effectiveness of needle exchange programs and address the barriers in all settings in Canada, including the consideration of pilot projects in correctional facilities.**
- **Support outreach and networking initiatives at all levels to foster and increase harm reduction initiatives, increase access to effective health, social and treatment and rehabilitation services, and enhance social integration and reintegration (e.g. prisoners returning to their communities upon release from a correctional facility).**
- **Foster the involvement of people who use drugs by injection and drug user networks in reducing the harms associated with injection drug use.**
- Develop innovative outreach approaches and use peer outreach workers to disseminate information to hard-to-reach populations and to encourage people who use drugs, particularly youth and young adults, to seek appropriate treatment services.
- Develop evidenced-based material that are sensitive to the needs and circumstances of people who inject drugs on the promotion of supervised injection practices, safer sex practices, and infectious disease prevention.
- Assist existing outreach networks to include harm reduction services such as needle exchange programs, vaccination against Hepatitis A and B, Pneumovax, tuberculosis testing and Directly Observed Therapy (DOT), if required, testing and treatment for sexually transmitted diseases, HIV testing, and assistance with Antiretroviral therapies.
- Enhance links between health and enforcement to ensure that the two sectors are working together to achieve complementary goals.
- Foster the capacity of needle exchange programs, pharmacies, and health services to recuperate used needles.

3. Treatment and Rehabilitation

- **Increase the availability of and address barriers to effective substance misuse treatment and rehabilitation programs, including methadone maintenance treatment, in all settings, including correctional facilities.**
- **Support, in principle, clinical trials to assess the treatment effectiveness of the prescription of heroin, LAAM, buprenorphine, and other drugs in the treatment of people who inject drugs.**
- Ensure that programs and services meet the needs of people who use drugs, including individuals with multiple substance use problems and mental illnesses, and take into account gender, age, geographic location, disability and ethnicity.
- Ensure that substance misuse treatment and rehabilitation services, HIV/AIDS, and hepatitis B and C medical care and treatment, and adjunct services such as housing and employment are linked.

- Explore the issue of effective pharmacological treatment for cocaine addiction.
- Ensure curricula for health and other relevant professionals include injection drug use issues.
- Provide training to health professionals, particularly in the area of methadone maintenance treatment, in collaboration with associations of health professionals and other relevant institutions.
- Promote and increase training for emergency room personnel to respond to crisis situations, such as overdose so that persons in crisis have access to appropriate treatment by first line service providers.
- Create and make available opportunities for job training and education for people who have been stabilized.
- Address barriers, such as discrimination, marginalization, and coercive measures to develop effective interventions for people who inject drugs, taking into account the special circumstances of those with HIV and/or hepatitis C.

4. Research, Surveillance, and Knowledge Dissemination

- **Monitor innovative approaches used in other countries to address injection drug use and assess their applicability to the Canadian context.**
- **Develop a framework for reporting regularly using agreed-upon indicators on injection drug use and its consequences, develop the tools necessary to collect and disseminate the relevant data and information, and monitor progress made to address this critical issue.**
- **Establish a task group consisting of (at a minimum) law enforcement, justice, health and social services, addiction and community perspectives to conduct a feasibility study of establishing a scientific, medical research project regarding a supervised injection site in Canada.**
- **Improve surveillance of the injection drug use situation and its consequences in Canada through data collection, targeted studies, and research to assess causes, co-factors, and effectiveness of interventions.**
- **Enhance knowledge dissemination and education regarding injection drug use, its determinants and its health and social effects for health and social service professionals, enforcement and justice officials, persons who inject drugs, inmates in correctional facilities and the community at large.**
- **Conduct research on Canadians' attitudes regarding harm reduction principles and specific harm reduction strategies.**
- Establish links with organizations working with drug/steroid use and sports to obtain information about the use of steroids and similar drugs by injection and about effective interventions.

- Support research initiatives and monitor local, national and international experiences to gather evidence on the effectiveness of innovative approaches.
- Conduct qualitative and ethnographic research to better understand issues, such as current needle use behavior, and disseminate the results as widely as possible.
- Examine what works and what does not work to establish best practices in prevention, outreach, treatment and rehabilitation.
- Undertake research to examine the links between injection drug use, HIV/AIDS, and hepatitis B and C to develop appropriate responses.
- Support evaluation and implementation of new approaches, such as drug treatment courts, to respond to the need for diversion programs and alternative measures and to address injection drug use as a health issue.
- Develop, apply, and monitor the application of ethical standards for the involvement of people who inject drugs in all facets of research.
- Enhance the capacity of public health authorities and networks, such as the Canadian Community Epidemiology Network on Drug Use (CCENDU), to operate as an effective national surveillance system and early warning network.
- Develop innovative mechanisms to disseminate evidence-based information, such as electronic bulletin boards and satellite conferences.

5. National Leadership and Coordination

- **Provide leadership and coordination to establish an intersectoral, multi-level national dialogue regarding injection drug use.**
- **Provide leadership and collaborate with colleagues from other ministries/departments/jurisdictions to promote the adoption of policies and practices that reduce the harm associated with injection drug use.**
- **Foster intersectoral action through mechanisms such as the Health and Enforcement in Partnership (HEP) initiative to achieve the objectives of this framework for action.**
- Provide leadership and support to ensure adequate attention and funding for strategies to reduce the harm associated with injection drug use.
- Recognize that action is required at all levels, including federal government, provincial/territorial governments, non-governmental organizations, and communities, and in a variety of jurisdictions, including public health, addictions, HIV/AIDS, hepatitis C, Aboriginal peoples, corrections, mental health, social housing, justice, enforcement, education, and employment sectors.

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